157. By Christine Ladd. — What is the entire number of double points which can be assumed arbitrarily on a curve of the nth degree?

158. By R. J. Adcock. — Let two concentric and similarly placed ellipses, infinitely near each other, be described, the semi-axes of the inner being a and b, and those of the outer $a + da$, and $b + da$; show that the minimum distance between their perimeters $= 2\sqrt{(ab)}da \div (a+b)$.

159. By Artemas Martin. — The first of two casks contains a gallons of wine and b gallons of water, and the second contains c gallons of wine and d gallons of water. e gallons are taken from the first and poured into the second cask, and then e gallons are taken from the second cask and poured into the first.

Required the quantity of wine in the second cask after n such operations as the one described above.

160. By Prof. A. Hall. — P and Q being functions of x find the conditions that the equation $ydy + (P - Qy)dx = 0$, is made integrable by the factor $\frac{y}{[y + f(x)]^n}$, and determine the form of $f(x)$.

161. By E. B. Seitz. — Two equal circles, radii r, are drawn on the surface of a circle, radius $2r$; find the average of the area common to the two circles.

Query, by W. E. Heal, Wheeling, Indiana. — On page 149 of Chauvenet's Geometry it is stated, "That it is possible, by the use of the straigt line and circle only, to construct regular polygons of 17 sides, of 257 sides, and in general of any number of sides which can be expressed by 2^n+1, n being an integer, provided that 2^n+1 is a prime number." How is this demonstrated?

ERRATA.

On page 20, line 11, eq. (3), for $(b^2 \div a^2,)$ in denominator, read $(b^4 \div a^4)$.
" 22, " 7, " $a\alpha+b\beta$, " " " $c\gamma+b\beta$.
" " " 15, " $c\gamma+a\gamma$, " " " $c\gamma+a\alpha$.
" " " 15, " $a\alpha-b\gamma$, " numerator " $a\alpha-b\beta$.
" 39, " 7 from bottom, for $nr+n = t_n$, read $nr+m = t_n$.
" 51, " 3 & 4 from bottom, for d read $d_{/}$.
" 52, " 1, for $\delta = d_{/}{}^2 P(4)$, read $\delta^2 = d_{/}{}^2 P(4)$.
" " " 7, " 140800000, in numerator, read $140800000\delta^2$.
" 53, " 7, " $-(b^2+12d)^3$, " $-4(b^2+12d)^3$.